PHOTOCATALYTIC HYDROPHILIC MEMBER, ITS PRODUCTION AND PHOTOCATALYTIC HYDROPHILIC COATING COMPOSITION

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Abstract

PROBLEM TO BE SOLVED: To keep the surface highly hydrophilic over a long period by forming the surface layer consisting of photocatalytic titanium oxide, silica and tungsten oxide or forming the surface layer consisting of silica and tungsten oxide on a photocatalytic titanium oxide-contg. layer.
SOLUTION: For example, a sol of suspended photocatalytic titanium oxide grains is applied on the surface of a substrate by spray coating, etc., and dried, then tungstosilicic acid is applied, and the surface layer is fixed to the substrate by calcination, etc. Otherwise, the precursor for a crystalline titanium oxide such as a soluble inorg. titanium compd., e.g. the monomer of such a tetraalkoxytitanium as tetraethoxytitanium, is applied on the substrate surface by electron-beam vapor deposition, etc., and dried, and tungstic acid is further applied and calcined above the temp. (crystallization temp. of anatase-structure titanium oxide) at which the photocatalytic titanium oxide precursor is converted to the photocatalytic oxide to make the substrate surface highly hydrophilic permanently.